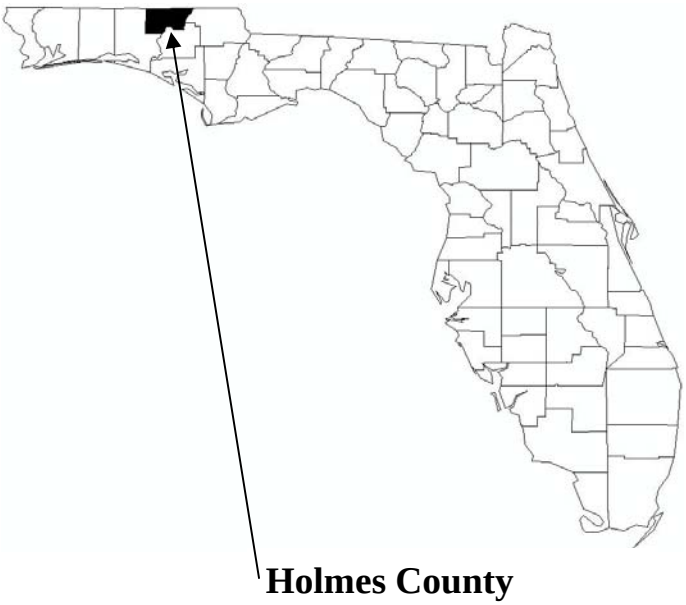
FLOOD INSURANCE STUDY

HOLMES COUNTY, FLORIDA
AND INCORPORATED AREAS

Community Name	Community Number
BONIFAY, CITY OF	120116
ESTO, TOWN OF	120630
HOLMES COUNTY (UNINCORPORATED AREAS)	120420
NOMA, TOWN OF	120631
PONCE DE LEON, TOWN OF	120117
WESTVILLE, TOWN OF	120118



REVISED: DECEMBER 17, 2010

Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER
12059CV000A

NOTICE TO
FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program (NFIP) have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study (FIS) may not contain all data available within the repository. It is advisable to contact the community repository for any additional data.

Part or all of this FIS may be revised and republished at any time. In addition, part of this FIS may be revised by the Letter of Map Revision process, which does not involve republication or redistribution of the FIS. It is, therefore, the responsibility of the user to consult with community officials and to check the community repository to obtain the most current FIS components.

Initial Countywide FIS Effective Date: December 5, 1990

Revised Countywide FIS Date: December 17, 2010

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FLOOD INSURANCE STUDY
HOLMES COUNTY, FLORIDA, AND INCORPORATED AREAS

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study revises and updates information on the existence and severity of flood hazards in the geographic area of Holmes County, including the City of Bonifay; the Towns of Esto, Noma, Ponce De Leon, and Westville; and the unincorporated areas of Holmes County (referred to collectively herein as Holmes County), and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study has developed flood-risk data for various areas of the community that will be used to establish actuarial flood insurance rates and to assist the community in its efforts to promote sound floodplain management. Minimum floodplain management requirements for participation in the National Flood Insurance Program (NFIP) are set forth in the Code of Federal Regulations at 44 CFR, 60.3.

In some states or communities, floodplain management criteria or regulations may exist that are more restrictive or comprehensive than the minimum Federal requirements. In such cases, the more restrictive criteria take precedence and the State (or other jurisdictional agency) will be able to explain them.

The Digital Flood Insurance Rate Map (DFIRM), and FIS Report for this countywide study have been produced in digital format. Flood hazard information was converted to meet the Federal Emergency Management Agency (FEMA) DFIRM database specifications and Geographic Information and is provided in a digital format so that it can be incorporated into a local GIS and be accessed more easily by the community.

1.2 Authority and Acknowledgments

The sources of authority for this Flood Insurance Study are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

The authority and acknowledgments prior to this countywide FIS have been compiled from the FIS reports for the previously identified floodprone jurisdictions within Holmes County and are shown below.

For the Holmes County and Incorporated Areas FIS, dated December 5, 1990, hydrologic and hydraulic analyses for Wrights Creek, East Pittman Creek, and portions of the Choctawhatchee River and Holmes Creek were performed by Engineering Methods and Applications (the Study Contractor) for the Federal Emergency Management Agency (FEMA), under Contract No. EMA-86-C-0109. That study was completed in August 1987.

The hydrologic and hydraulic analyses for Sandy and Blue Creeks and portions of the Choctawhatchee River were performed by the U.S. Army Corps of Engineers (COE).

The hydrologic and hydraulic analyses for Holmes Creek in the vicinity of Graceville, Florida, were taken from the Flood Insurance Study for the City of Graceville. (Reference 11).

The hydrologic and hydraulic analyses for the Choctawhatchee River in the vicinity of Caryville, Florida, were taken from the Flood Insurance Study for the City of Caryville (Reference 12).

For this revision, hydrologic and hydraulic analyses for this countywide study were performed by Watershed Concepts, a division of AECOM water, for the North West Florida Water Management District (NWFWMD), FEMA (CTP), under Contract No. 07-032. Task Order No. 05. This study was completed in February 2009.

Base map information shown on this FIRM was derived from the Florida Department of Revenue produced at a scale of 1:24,000 from photography dated 2007. The projection used in the preparation of the Flood Insurance Rate Maps (FIRMs) was Florida State Plane HARN North zone. The horizontal datum was North American Datum of 1983, Geodetic Reference System of 1980 spheroid.

1.3 Coordination

For the Holmes County and Incorporated Areas FIS, dated December 5, 1990, the initial coordination meeting for Holmes County, held in Bonifay on February 5, 1986, was attended by representatives of FEMA, the Study Contractor, the Holmes County Civil Defense Department, Holmes County Engineering Services, and the Holmes County Building Department.

On December 7, 1989, the results of this Flood Insurance Study were reviewed and accepted at a final coordination meeting attended by representatives of the Study Contractor, FEMA, and the communities.

For this revision, an initial coordination meeting was held with representative of FEMA, NWFWMD, Holmes County, and the Study Contractor on March 4, 2008. Coordination with county officials and Federal, State, and regional agencies produced a variety of information pertaining to floodplain regulations, available community maps, flood history, and other hydrologic data.

The results of the study were reviewed at the final Preliminary DFIRM Community Coordination [PDCC] meeting held on November 16, 2009, and attended by representatives of the Homes County, the communities, FEMA, NWFWMD, and the Study Contractor. All problems raised at that meeting have been addressed in this study.

2.0 AREA STUDIED

2.1 Scope of Study

This Flood Insurance Study covers the geographic area of Holmes County, Florida, including the incorporated communities listed in Section 1.1.

For the Holmes County and Incorporated Areas FIS, dated December 5, 1990, flooding caused by overflow of Sandy, Blue, East Pittman, Holmes, and Wrights Creeks and the Choctawhatchee River was studied in detail.

For this revision, Sandy Creek was studied by detailed method, and streams were studied by limited detailed methods are shown on Table 1.

Table 1. Scope of Revision (Limited Detailed Study)

Flooding Source
Blue Creek
Camp Branch
Camp Branch Trib 1
Cow Branch
Cow Branch Trib 1
Mill Creek
Sandy Creek
Wrights Creek

Approximate analyses were used to study those areas having a low development potential or minimal flood hazards. The scope and methods of study were proposed to, and agreed upon, by FEMA, Holmes County, and the study contractor.

2.2 Community Description

Holmes County was created in 1848. It was named for Thomas J. Holmes, who came from North Carolina to settle in the area about 1830. The county seat is Bonifay, Florida.

According to the U.S. Census Bureau, Holmes occupies an area of 489 square miles in the Central Florida Panhandle. Nearly 482 square miles of it is land, and 6 square miles of it is water.

The county is bordered on the north by Geneva County, Alabama; on the east and southeast by Jackson and Washington Counties, Florida; on the south by Washington County, Florida; and on the west and southwest by Walton County, Florida. It is served by Interstate 10, U.S. Route 90, State Roads 2, 8, 10, 79, 81, and CSX railroad.

In the 2000 census, the population of Holmes County was 18,564. The 2008 population was estimated 19,328, which represents a 4.1 percent increase in 8 years (Reference 1).

The climate of Holmes County is characterized by long, warm, humid summers and mild winters. Maximum and minimum temperatures are moderated by the Gulf of Mexico, the daily average temperature being about 54°F in January and 81°F in July; the annual mean temperature is about 68°F (Reference 2).

The average annual rainfall is about 60 inches (Reference 2), with the periods of heaviest rainfall being early March through late April and mid-June through mid-September. The period of least rainfall is generally October and November.

The terrain is mostly gently sloping to the south and includes a well-defined drainage system of rivers, creeks, and streams. The larger creeks tend to be shallow, with wide meandering floodplains (Reference 2). The major feature is the Choctawhatchee River flowing south through the west-central region of the county; other major streams including Holmes, Wrights, and Sandy Creeks drain toward it. In some southern areas of the county, drainage is not well-defined, with long periods of ponding in large depressions (Reference 2).

2.3 Principal Flood Problems

In general, the county is not extremely flood prone (Reference 3). Severe drought can be as problematic as flooding, with recent droughts occurring in 1954-56, 1968, and 1977 (Reference 3). Nevertheless, occasional severe floods occur within the county.

The flooding in Holmes County results from overflow of streams, local ponding, and sheetflow. Major rainfall events are associated with either tropical storms or frontal and thunderstorm systems. Ninety-percent of floods occur in the period from December through April, March and April being the most hazardous months. The largest flood on record in the county occurred in March 1929. Other major floods occurred in April 1960 and April 1975.

Rainfall associated with hurricanes can typically amount to as much as 12 inches in the area. Twelve such hurricanes affected the county between 1915 and 1975 (Reference 4). The maximum storm rainfall recorded for northwest Florida was 24.5 inches, measured in Holmes County at Bonifay in July 1916. A March 1929 storm caused the most severe general flooding in northwest Florida, with peak rainfall just north of Holmes County in southern Alabama amounting to 30 inches. In 1979, another March storm brought 18 inches of rain in 18 hours to the Pensacola area located southwest of the county (Reference 5).

The 1%-annual-chance flood event will occur in many developed areas adjacent to the rivers and streams. Portions of Westville lie within the floodplain of the Choctawhatchee River. Ponce de Leon is affected by Blue and Sandy Creeks; development in the northeast will be affected by Holmes, Tenmile, and Wrights Creeks, while West and East Pittman Creeks and the Choctawhatchee River will affect regions of development in the north and northwest. In the vicinity of Holmes County, the most illustrative historical record is that of floods at Caryville/Westville. While historical data is sparse for other regions of the county because of limited development in earlier years, serious flooding must be expected in other locations given similar extreme storm conditions.

2.4 Flood Protection Measures

Flood protection measures are not known to exist within the study area.

3.0 ENGINEERING METHODS

For the flooding sources studied by detailed methods in the community, standard hydrologic and hydraulic study methods were used to determine the flood-hazard data required for this study. Flood events of a magnitude that are expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 50, 100-, and 500-year floods, have a 10-, 2-, 1-, and 0.2-percent chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long-term, average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 100-year flood (1-percent chance of annual exceedence) in any 50-year period is approximately 40 percent (4 in 10); for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish peak discharge-frequency relationships for each flooding source studied by detailed methods affecting the community.

For the Holmes County and Incorporated Areas FIS, dated December 5, 1990, U.S. Geological Survey (USGS) regional equations were used to determine discharges for Wrights, East Pittman, and Holmes Creeks, and the Choctawhatchee River. Discharges for Sandy and Blue Creeks were determined by analyzing of rainfall and runoff characteristics of previous floods and comparing with streams with similar characteristics in the same geographical region.

For this revision, the hydrology for Holmes County, FL detailed and limited detailed streams was calculated using HEC-HMS 3.1.0 the precipitation distribution was based on the SCS Type III Storm (per TP-40), the loss method was based on SCS Curve Number, and routing was performed based on the Modified-Puls method.

Rather than use the SCS Unit Hydrograph as the transform methodology, a user-specified unit hydrograph was used. Default SCS unit hydrograph are constructed assuming a standard Peak Rate Factor (PRF) of 484. A PRF of 484 is used in moderately hilly terrain. The terrain of northwestern Florida does not warrant the use of PRF of 484. Therefore, a PRF of 256 was used for flatter study streams to generate Unit Hydrographs, which resulted on, more reasonable flows in the study area. PRF of 484 was used for steeper streams in the county. All streams discharges were compared to the regional regression equation estimates as an additional reasonability check. A summary of the drainage area-peak discharge relationships for new detailed streams and redelineation streams is shown in Table 1, “Summary of Discharges”.

Table 2. Summary of Discharges

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (cfs) 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
BLUE CREEK					
At mouth	29.0	N/A	N/A	7,270	13,300
About 3.23 miles upstream of U.S. Route 90	25.8	N/A	N/A	7,620	13,600
CHOCTAWHATCHEE RIVER					
Just upstream of State Road 20	3,499	N/A	N/A	133,000	N/A
EAST PITTMAN CREEK					
Just upstream of mouth	25.8	2,300	4,200	5,100	7,800
About 0.4 mile upstream of Confluence of Bee Branch	15.7	1,900	3,500	4,300	6,600

Table 2. Summary of Discharges

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (cfs) 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
At County Highway 177A	12.8	1,600	3,000	3,800	5,700
About 2,200 feet downstream of County Highway 177	9.3	1,300	2,400	2,900	4,400
At County Highway 177	5.5	800	1,500	1,900	2,800
HOLMES CREEK					
About 3,600 feet downstream of unpaved road	37.8	N/A	N/A	2,980	N/A
At unpaved road	37.4	N/A	N/A	2,950	N/A
About 1.1 miles Downstream of State Road 2	27.5	N/A	N/A	2,220	N/A
At State Road 2	25.9	N/A	N/A	2,100	N/A
SANDY CREEK					
Approximately 400 feet upstream of county line	124.5	12,489	15,565	17,926	24,980
Approximately 400 feet downstream of Interstate Highway 10	123.8	12,470	15,551	17,907	24,945
Approximately 1,700 feet upstream of Interstate Highway 10	123.4	12,460	15,549	17,902	24,926
Approximately 700 feet downstream of railroad	114.9	12,023	15,073	17,309	24,092
Just upstream of US Route 90	85.4	10,208	12,787	14,750	20,585
Approximately 4,600 feet downstream of State Highway 81A	79.7	9,930	12,423	14,305	20,005
WRIGHTS CREEK					
Just upstream of mouth	169	7,900	14,700	18,200	28,600
At County Highway 177A	148	7,700	14,400	17,900	28,200
At County Highway 177	72.4	4,500	8,300	10,300	15,800

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. Users should be aware that flood elevations shown on the FIRM represent rounded whole-foot elevations and may not exactly reflect the elevations shown on the Flood Profiles or in the Floodway Data tables in the FIS report. For construction and/or floodplain management purposes, users are encouraged to use the flood elevation data presented in this FIS in conjunction with the data shown on the FIRM. Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 4.2), selected cross section locations are also shown on the Flood Insurance Rate Map (Exhibit 2)

For the Holmes County and Incorporated Areas FIS, dated December 5, 1990, roughness coefficients (Manning's "n") were chosen by engineering judgment based on field observations of the floodplain areas. The values for Holmes Creek were 0.03 in the channel and 0.125 in the overbank area. Roughness coefficients for Wrights and East Pittman Creeks ranged from 0.03 to 0.06 for the channel and from 0.06 to 0.15 for the overbank areas.

Starting water-surface elevations for Holmes Creek were determined by slope-conveyance methods. Wrights and East Pittman Creek starting water-surface elevations were calculated at normal depth.

Data for Sandy and Blue Creeks were obtained from a COE Flood Plain Information Report (Reference 7).

The 1%-annual-chance flood profile on the Choctawhatchee River shown in the Flood Insurance Study for Caryville was adopted (Reference 12). The profile from Caryville to the Walton County boundary was determined by interpolation between the Caryville level and the 1%-annual-chance flood elevation derived from data at USGS gage No. 02356000 near State Road 20 at the southwest extreme corner of Washington County. The upstream segment was established by extending the Caryville profile to intersect a profile established by the COE (Reference 8); the COE profile was adopted from that point northward.

Data for Holmes Creek near Graceville (Reference 11) were adopted for the northeast portion of Holmes County. The 1%-annual-chance flood profile was interpolated from Graceville to the elevations established by detailed study at Vernon (Reference 12).

For the backwater analyses on Holmes Creek near Graceville and the Choctawhatchee River near Caryville, the E431 computer program was used (Reference 14). The HEC-2 computer program (Reference 15) was used for all remaining streams studied in detail.

For this revision, a portion of Sandy Creek has been studied by new detailed methods with up-to-date stream channel configurations. As a result, the base flood elevations at the confluence of Sandy Creek and Blue Creek, which was redelineated, do not agree.

Blue Creek, Camp Branch, Camp Branch Trib 1, Cow Branch, Cow Branch Trib 1, Mill Creek, Wrights Creek and a portion of Sandy Creek are limited detail study streams. Water surface elevations were computed using the USACE HEC-RAS step-backwater computer program version 3.1.3 (USACE, 2005). Starting water surface elevations were calculated using the slope/area methods, except for those stream reaches that tie in directly with a

detailed study where a known water surface elevation was used. Sandy Creek starting elevation can't be tied in Blue Creek since the new detailed study shows the base flood elevation; about 4ft lower than the base flood elevation on redelineation stream.

Cross sections for all flooding sources studied by detailed methods were obtained from field surveys. All bridges, dams, and culverts were field surveyed to obtain elevation data and structural geometry. For all flooding sources studied by detailed methods, roughness factors (Manning's "n") were chosen by engineering judgment and based on field observations of the stream and floodplain areas. Roughness coefficient for channel is 0.04 and ranged from 0.055 to 0.12 for the overbanks.

Approximate methods were used to determine the water-surface elevation of the 1-percent-annual-chance flood. Water surface elevations were computed using the USACE HEC-RAS step-backwater computer program version 3.1.3 (USACE, 2005). Starting water surface elevations were calculated using the slope/area methods, except for those stream reaches that tie in directly with a detailed study where a known water surface elevation was used. Default roughness factors (Manning's "n") values of 0.05 for the channel and 0.15 for the overbanks were used.

Flood profiles were drawn showing the computed water-surface elevations for floods of the selected recurrence intervals. In cases where the 2 percent- and 1percent-annual-chance flood elevations are close together, due to limitations of the profile scale, only the 1percent-annual-chance flood profile was shown. The hydraulic analyses for this study were based on the effects of unobstructed flow. The flood elevations shown on the profiles were thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 4.2), selected cross section locations are also shown on the Flood Insurance Rate Map (Exhibit 2).

3.3 Vertical Datum

All FIS reports and FIRMs are referenced to a specific vertical datum. The vertical datum provides a starting point against which flood, ground, and structure elevations can be referenced and compared. Until recently, the standard vertical datum in use for newly created or revised FIS reports and FIRMs was the National Geodetic Vertical Datum of 1929 (NGVD 29). With the finalization of the North American Vertical Datum of 1988 (NAVD 88), many FIS reports and FIRMs are being prepared using NAVD 88 as the referenced vertical datum. The average datum shift for Holmes County, Florida is -0.308 feet.

Flood elevations shown in this FIS report and on the FIRM are referenced to NAVD 88. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. It is important to note that adjacent counties may be referenced to NGVD 29. This may result in differences in base flood elevations across county lines

For information regarding conversion between the NGVD and NAVD, visit the National Geodetic Survey website at http://www.ngs.noaa.gov, or contact the National Geodetic Survey at the following address:

Vertical Network Branch, N/CG13
National Geodetic Survey, NOAA
Silver Spring Metro Center 3
1315 East-West Highway
Silver Spring, Maryland 20910
(301) 713-3191

Temporary vertical monuments are often established during the preparation of a flood hazard analysis for the purpose of establishing local vertical control. Although these monuments are not shown on the FIRM, they may be found in the Technical Support Data Notebook associated with the FIS report and FIRM for this community. Interested individuals may contact FEMA to access these data.

4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

The NFIP encourages State and local governments to adopt sound floodplain management programs. To assist in this endeavor, each FIS report provides 1-percent-annual-chance floodplain data, which may include a combination of the following: 10-, 2-, 1-, and 0.2-percent-annual-chance flood elevations; delineations of the 1- and 0.2-percent-annual-chance floodplains; and a 1-percent-annual-chance floodway. This information is presented on the FIRM and in many components of the FIS report. Users should reference the data presented in the FIS report as well as additional information that may be available at the local community map repository before making flood elevation and/or floodplain boundary determinations.

4.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1-percent-annual-chance (100-year) flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent-annual-chance (500-year) flood is employed to indicate additional areas of flood risk in the community. For each stream studied in detail, the 1- and 0.2-percent-annual-chance floodplain boundaries have been delineated using the flood elevations determined at each cross section. Between cross sections, the boundaries were interpolated using topographic maps at a scale of 1:24000 with a contour interval of 10 feet (Reference 9).

The 1-percent annual chance and 0.2-percent annual chance floodplain boundaries are shown on the Flood Insurance Rate Map (Exhibit 2). On this map, the 1-percent annual chance floodplain boundary corresponds to the boundary of the areas of special flood hazards (Zones A and AE,), and the 0.2-percent annual chance floodplain boundary corresponds to the boundary of areas of moderate flood hazards. In cases where the 1-percent annual chance and 0.2-percent chance floodplain boundaries are close together, only the 1-percent annual chance floodplain boundary has been shown. Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data. For the streams studied by approximate methods, only the 1-percent annual chance floodplain boundary is shown on the Flood Insurance Rate Map (Exhibit 2).

4.2 Floodways

Encroachment on floodplains, such as structures and fill, reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the

encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard. For purposes of the NFIP, a floodway is used as a tool to assist local communities in this aspect of floodplain management. Under this concept, the area of the 1-percent annual chance floodplain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment so that the 1-percent annual chance flood can be carried without substantial increases in flood heights. Minimum Federal standards limit such increases to 1 foot, provided that hazardous velocities are not produced. The floodways in this study are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway studies.

The floodways presented in this study were computed for certain stream segments on the basis of equal-conveyance reduction from each side of the floodplain. Floodway widths were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. The results of the floodway computations are tabulated for selected cross sections (see Table 3, "Floodway Data"). In cases where the floodway and 100-year floodplain boundaries are either close together or collinear, only the floodway boundary is shown.

Floodways are computed on the basis of equal-conveyance reduction from each side of the floodplain. Floodway widths are computed at cross sections. Between cross sections, the floodway boundaries are interpolated. The results of the floodway computations are tabulated for selected cross sections. In cases where the floodway and 1-percent-annual-chance floodplain boundaries are either close together or collinear, only the floodway boundary is shown.

Encroachment into areas subject to inundation by floodwaters having hazardous velocities aggravates the risk of flood damage and heightens potential flood hazards by further increasing velocities. To reduce the risk of property damage in areas where the stream velocities are high, the community may wish to restrict development in areas outside the floodway.

Near the mouths of streams studied in detail, floodway computations are made without regard to flood elevations on the receiving water body.

Along streams where floodways have not been computed, the community must ensure that the cumulative effect of development in the floodplain will not cause more than a 1.0-foot increase in the BFEs at any point within the community.

The area between the floodway and 1-percent annual chance floodplain boundaries is termed the floodway fringe. The floodway fringe encompasses the portion of the floodplain that could be completely obstructed without increasing the water-surface elevation of the 1-percent annual chance flood more than 1 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 1.

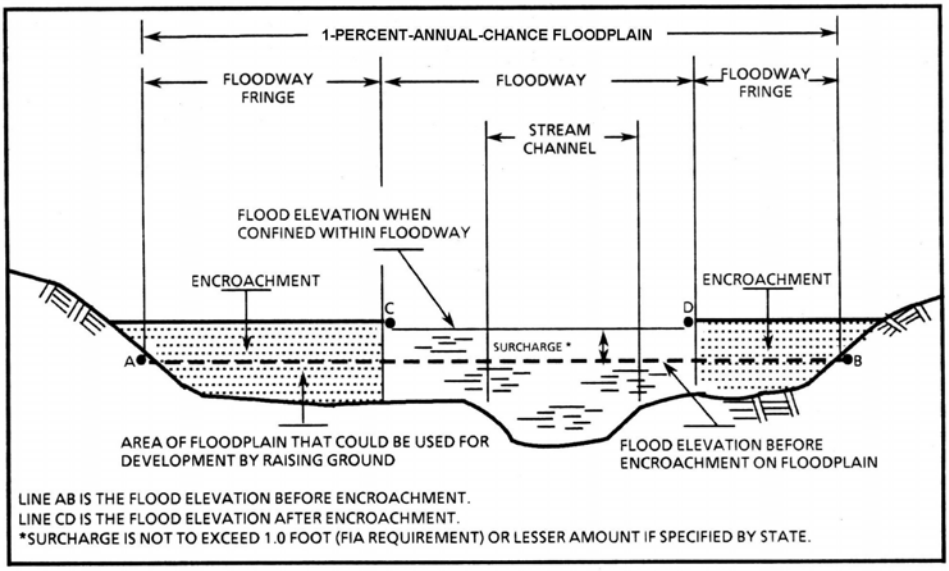


Figure 1. Floodway Schematic

5.0 INSURANCE APPLICATION

For flood insurance rating purposes, flood insurance zone designations are assigned to a community based on the results of the engineering analyses. These zones are as follows:

Zone A

Zone A is the flood insurance rate zone that corresponds to the 1-percent-annual-chance floodplains that are determined in the Flood Insurance Study by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no base (1-percent-annual-chance) flood elevations (BFEs) or depths are shown within this zone.

Zone AE

Zone AE is the flood insurance rate zone that corresponds to the 1-percent-annual-chance floodplains that are determined in the Flood Insurance Study by detailed methods. Whole-foot BFEs derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone X

Zone X is the flood insurance rate zone that corresponds to areas outside the 0.2-percent-annual-chance floodplain, areas within the 0.2-percent-annual-chance floodplain, areas of 1-percent-annual-chance flooding where average depths are less than 1 foot, areas of 1-percent-annual-chance flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 1-percent-annual-chance flood by levees. No BFEs or depths are shown within this zone.

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (NAVD)	WITHOUT FLOODWAY (NAVD)	WITH FLOODWAY (NAVD)	INCREASE
EAST PITTMAN CREEK								
A	7,479[4]	214	1,361	3.7	85.9	73.4[2]	73.7	0.3
B[3]	14,422[4]	166	1,386	3.7	85.9	82.7[2]	83.6	0.9
C[3]	22,636[4]	176	1,289	3.3	99.0	99.0	99.7	0.7
D	27,236[4]	208	1,095	3.7	105.4	105.4	106.1	0.7
E	31,508[4]	142	982	3.9	115.5	115.5	115.8	0.3
F[3]	36,852[4]	222	1,695	1.7	129.8	129.8	130.5	0.7
SANDY CREEK								
A	404	1514	10,508	2.0	49.3	49.3	49.4	0.1
B	3,438	600	6,006	3.0	52.0	52.0	52.1	0.1
C	6,451	683	7,294	4.0	54.6	54.6	54.8	0.2
D	8,553	960	9,724	1.8	56.7	56.7	57.0	0.3
E	10,451	1230	10,052	1.7	57.9	57.9	58.1	0.2
F	11,137	1044	7,782	2.3	58.5	58.5	58.8	0.3
G	12,074	1132	8,729	2.0	59.5	59.5	59.7	0.2
H	13,747	2098	14,051	1.6	61.0	61.0	61.3	0.3
I	14,122	464	5,938	2.5	61.6	61.6	61.8	0.2
J	18,148	810	8,129	1.8	64.6	64.6	64.9	0.3
K	19,351	696	7,159	2.1	66.0	66.0	66.0	0.0
L	22,451	1056	11,279	1.3	68.4	68.4	68.4	0.0
M	25,951	647	7,583	1.9	70.9	70.9	71.5	0.6
N	29,022	607	6,681	2.2	73.0	73.0	73.4	0.4
O	32,951	677	7,193	2.0	76.1	76.1	76.2	0.1
P	36,951	649	6,886	2.1	79.6	79.6	79.9	0.3

[1] Feet above county boundary
[2] Elevation computed without consideration of backwater effects from Choctawhatchee River
[3] Cross section stationing does not match effective profile or effective FIRM. The engineering model and/or other engineering support data is not available for review and reconciliation.
[4] Feet above mouth

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

HOLMES COUNTY, FL

AND INCORPORATED AREAS

FLOODWAY DATA

EAST PITTMAN CREEK - SANDY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (NAVD)	WITHOUT FLOODWAY (NAVD)	WITH FLOODWAY (NAVD)	INCREASE
WRIGHTS CREEK								
A[3]	6,452	670	7,924	2.3	63.7	59.3[2]	60.3	1.0
B[3]	11,471	572	6,373	2.9	64.4	61.2[2]	62.1	0.9
C	17,070	1,078	12,395	1.5	65.1	63.4[2]	64.4	1.0
D	27,650	1,067	11,290	1.6	65.1	64.7[2]	65.7	1.0
E	37,900	921	10,161	1.8	66.8	66.8	67.6	0.8
F	41,387	413	5,686	3.1	68.2	68.2	69.2	1.0
G	45,372	939	11,279	1.6	70.1	70.1	71.1	1.0
H	51,662	646	6,672	2.7	73.4	73.4	74.4	1.0
I	62,826	431	5,220	2.4	80.0	80.0	81.0	1.0
J	69,206	525	4,260	2.9	83.3	83.3	84.3	1.0
K	72,503	420	4,185	2.5	86.1	86.1	87.1	1.0
L[3]	74,792	392	3,637	2.8	87.8	87.8	88.6	0.8

[1] Feet above mouth
[2] Elevation computed without consideration of backwater effects from Choctawhatchee River
[3] Cross section stationing does not match effective profile or effective FIRM. The engineering model and/or other engineering support data is not available for review and reconciliation.

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

HOLMES COUNTY, FL

AND INCORPORATED AREAS

FLOODWAY DATA

WRIGHTS CREEK

6.0 FLOOD INSURANCE RATE MAP

The Flood Insurance Rate Map is designed for flood insurance and floodplain management applications.

For flood insurance applications, the map designates flood insurance rate zones as described in Section 5.0 and, in the 1-percent-annual-chance floodplains that were studied by detailed methods, shows selected whole-foot BFEs or average depths. Insurance agents use the zones and BFEs in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

For floodplain management applications, the map shows by tints, screens, and symbols, the 1- and 0.2-percent-annual-chance floodplains, floodways, and the locations of selected cross sections used in the hydraulic analyses and floodway computations.

The countywide Flood Insurance Rate Map presents flooding information for the entire geographic area of Holmes County. Previously, Flood Insurance Rate Maps were prepared for each incorporated community and the unincorporated areas of the County identified as flood-prone. This countywide Flood Insurance Rate Map also includes flood-hazard information that was presented separately on Flood Boundary and Floodway Maps, where applicable. Historical data relating to the maps prepared for each community are presented in Table 4, "Community Map History."

7.0 OTHER STUDIES

Because it is based on more up-to-date analyses, this countywide FIS supersedes the previously printed FISs for all jurisdictions within Holmes County.

8.0 LOCATION OF DATA

Information concerning the pertinent data used in the preparation of this FIS can be obtained by contacting FEMA, Federal Insurance and Mitigation Administration, Koger Center - Rutgers Building, 3003 Chamblee Tucker Road, Atlanta, Georgia 30341.

9.0 BIBLIOGRAPHY AND REFERENCES

1. U.S. Department of Commerce, Bureau of the Census, 2000 Census, Fact Sheet, Holmes County, Florida.

2. U.S. Department of Agriculture, Soil Conservation Service, Soil Survey of Holmes County, Florida, June 1975.

3. U.S. Army Corps of Engineers, Mobile District, Water Resources Study Summary Report, May 1980

4. U.S. Army Corps of Engineers, Mobile District, Water Resources Study, Choctawhatchee River Basin, May 1980.

5. U.S. Army Corps of Engineers, Mobile District, Water Resources Study, Apalachicola River Basin, May 1980.

6. U.S. Department of Agriculture, Soil Conservation Service, Soil Survey of Holmes County, Florida, June 1975.

COMMUNTIY NAME	INITIAL IDENTIFICATION	FLOOD HAZARD BOUNDARY MAP REVISIONS DATE	FIRM EFFECTIVE DATE	FIRM REVISIONS DATE
Bonifay, City of	November 16, 1973	January 30, 1976	August 1, 1987	
Esto, Town of	December 5, 1990		December 5, 1990	
Holmes County (Unincorporated Area)	June 17, 1977		December 5, 1990	
Noma, Town of	December 5, 1990		December 5, 1990	
Ponce De Leon, Town of	November 22, 1974		December 5, 1990	
Westville, Town of	September 6, 1974	February 20, 1976	June 1, 1987	

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

HOLMES COUNTY, FL

AND INCORPORATED AREAS

COMMUNITY MAP HISTORY

7. U.S. Army Corps of Engineers, Mobile District, Flood Plain Information Sandy and Blue Creeks, Vicinity of Ponce de Leon, Florida May 1975.

8. U.S. Army Corps of Engineers, Mobile District, Special Flood Hazard Information Report, Choctawhatchee River, Holmes County, Florida, November 1980.

9. Florida Department of Revenue, North West Florida Water Management District, 2007 FDOR 1' true color, Holmes County, Florida, 2007

10. Federal Emergency Management Agency, Flood Insurance Study, Holmes County, Florida And Incorporated Areas Washington, D.C., December 5, 1990.

11. Federal Emergency Management Agency, Flood Insurance Study, Jackson County, Florida And Incorporated Areas Washington, D.C., December 15, 1990.

12. Federal Emergency Management Agency, Flood Insurance Study, Washington County, Florida And Incorporated Areas Washington, D.C., June 17, 1991.

13. Federal Emergency Management Agency, Flood Insurance Study, Walton County, Florida And Incorporated Areas Washington, D.C., April, 1986.

14. U.S. Department of the Interior, Geological Survey, Open-File Report 76-499, Computer Program E431, User's Manual, Computer Applications for Step Backwater and Floodway Analyses, J.O. Shearman, Washington D.C., 1976

15. U.S. Army Corps of Engineers, Hydrologic Engineering Center, HEC-2 Water Surface Profiles, Computer Program 723-X6-L202A, Davis, California, April 1984.

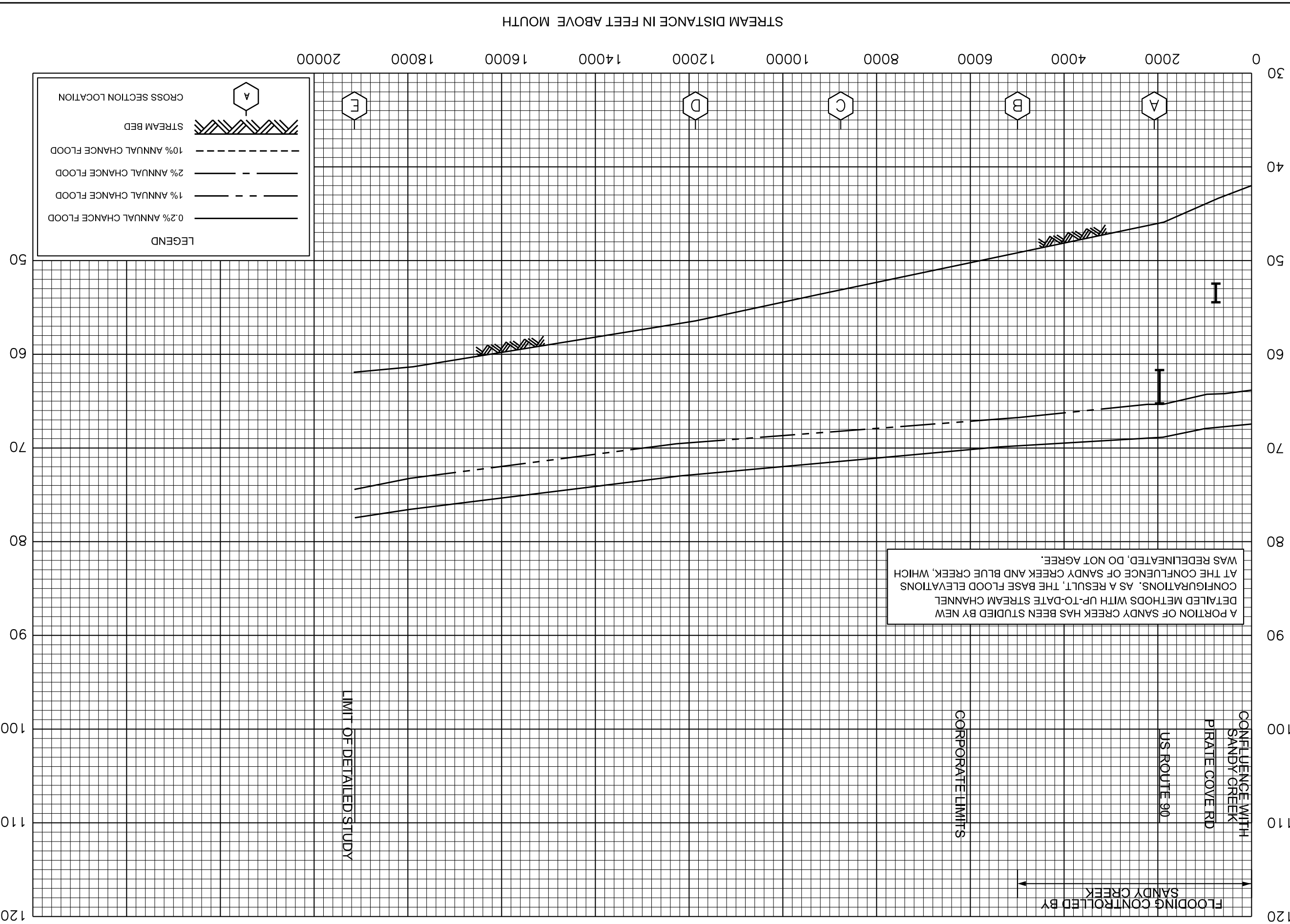
FEDERAL EMERGENCY MANAGEMENT AGENCY

HOLMES COUNTY, FL

AND INCORPORATED AREAS

FLOOD PROFILES

BLUE CREEK



01P

ELEVATION IN FEET (NAVD)

30 40 50 60 70 80 90 100 110 120

50 55 60 65 70 75 80 85 90 95 100 105 110 115

STREAM DISTANCE IN MILES ABOVE MOUTH

NOTE:
NO STREAM-
BED DATA
NOT AVAILABLE

NOTE:
10, 50, 500-YEAR
FLOOD DATA
NOT AVAILABLE

COUNTY BOUNDARY

TOWN OF WESTVILLE
CORPORATE LIMITS

INTERSTATE 10

CSX RR

US ROUTE 90

CONFLUENCE OF WRIGHTS CREEK

CONFLUENCE OF WEST PITTMAN CREEK

CONFLUENCE OF EAST PITTMAN CREEK
STATE RD 2

STATE BOUNDARY

LEGEND

0.2% ANNUAL CHANCE FLOOD

1% ANNUAL CHANCE FLOOD

2% ANNUAL CHANCE FLOOD

10% ANNUAL CHANCE FLOOD

STREAM BED

A CROSS SECTION LOCATION

02P

FEDERAL EMERGENCY MANAGEMENT AGENCY

HOLMES COUNTY, FL
AND INCORPORATED AREAS

FLOOD PROFILES

CHOCTAWHATCHEE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

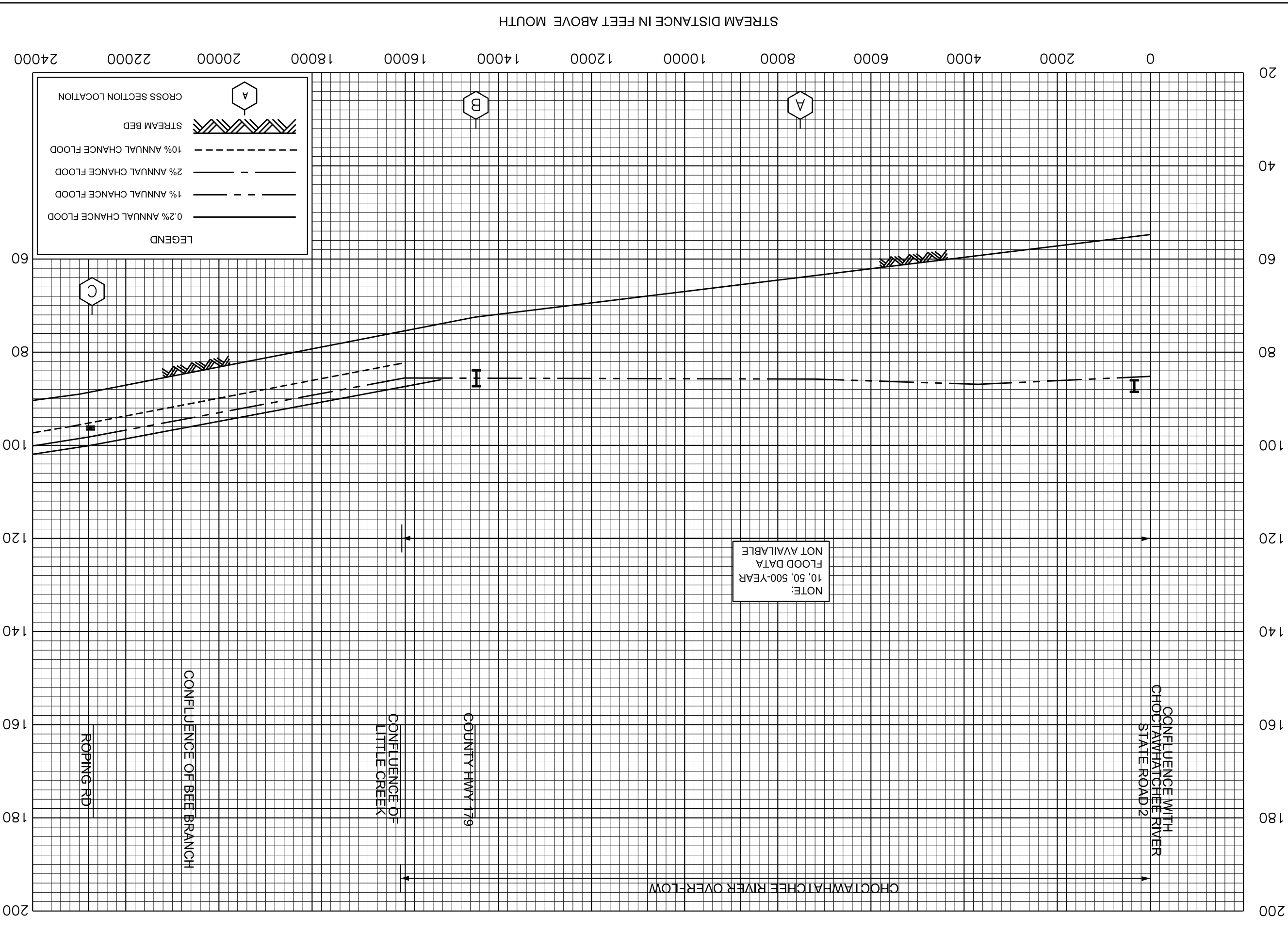
HOLMES COUNTY, FL

AND INCORPORATED AREAS

FLOOD PROFILES

EAST PITTMAN CREEK

03P



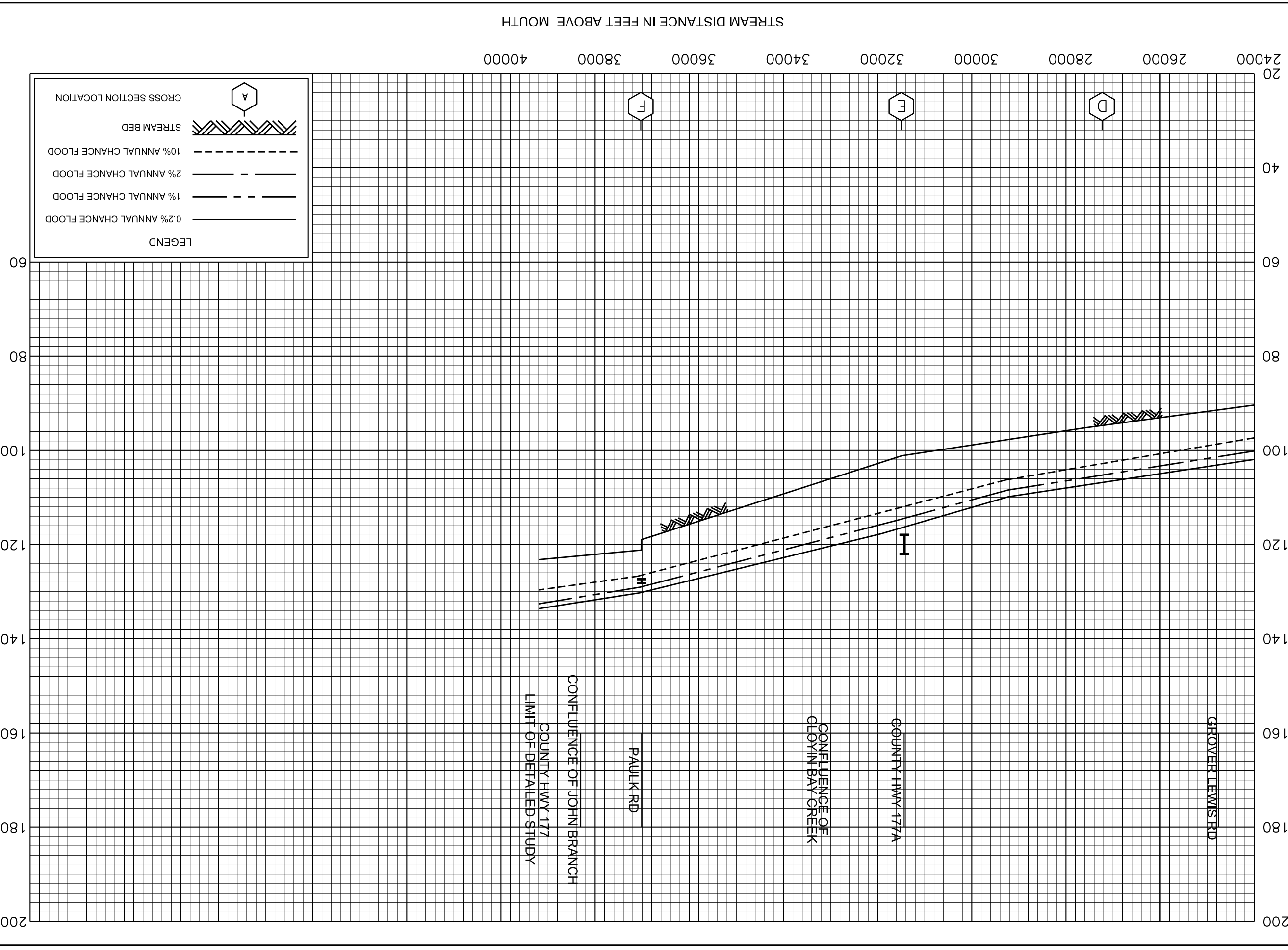
FEDERAL EMERGENCY MANAGEMENT AGENCY

HOLMES COUNTY, FL

AND INCORPORATED AREAS

FLOOD PROFILES

EAST PITTMAN CREEK



04P

05P

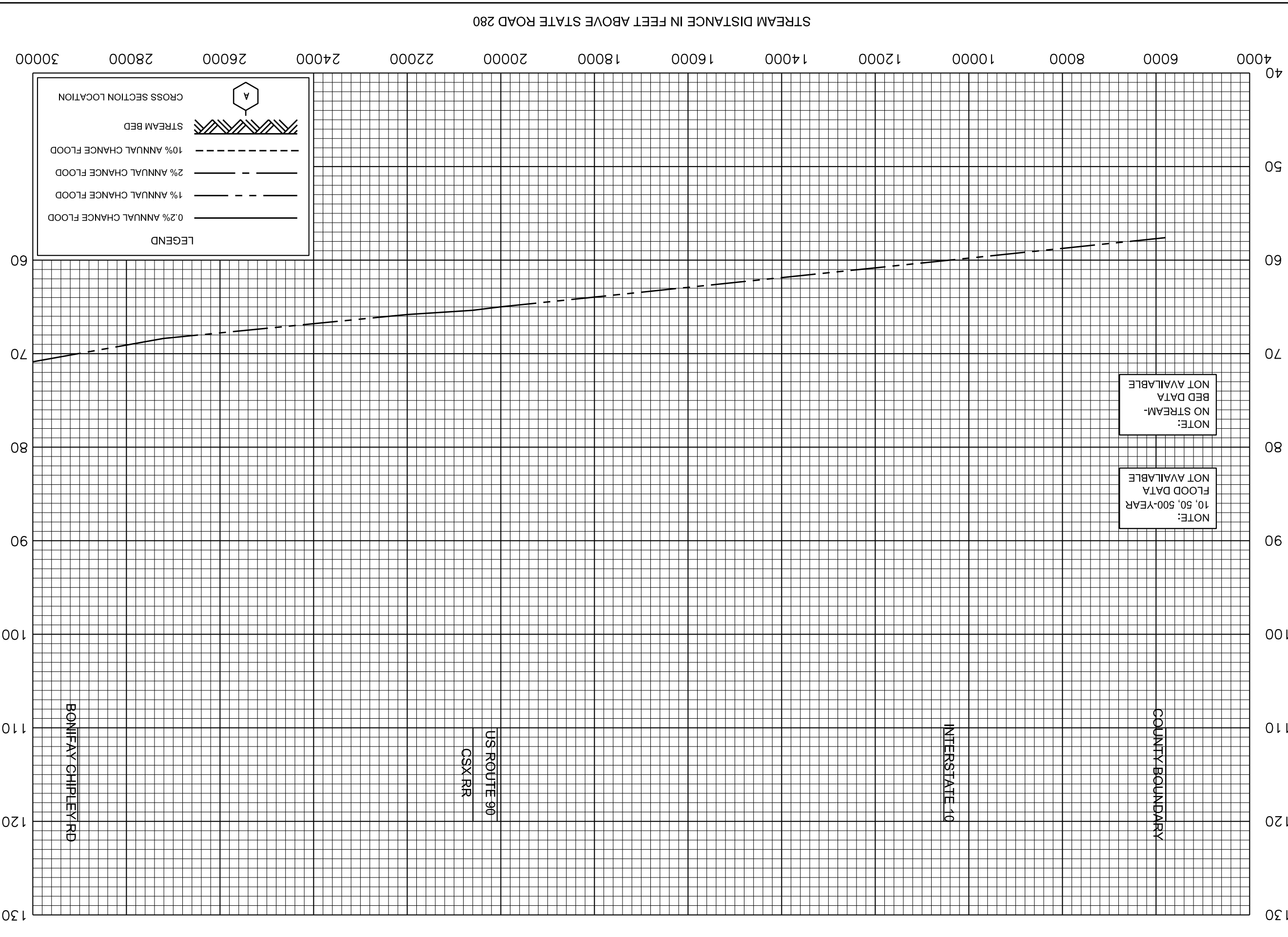
FEDERAL EMERGENCY MANAGEMENT AGENCY

HOLMES COUNTY, FL

AND INCORPORATED AREAS

FLOOD PROFILES

HOLMES CREEK



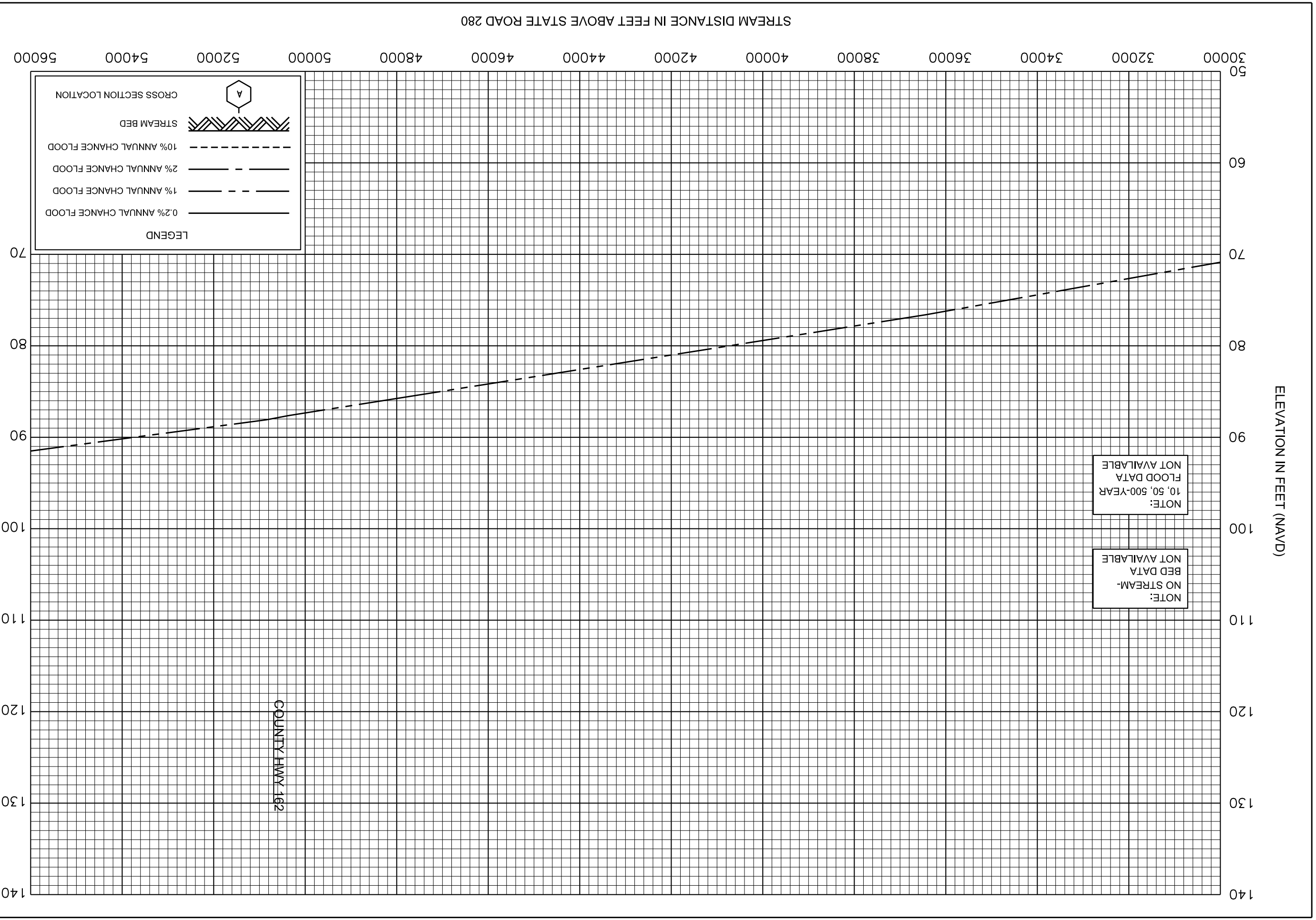
FEDERAL EMERGENCY MANAGEMENT AGENCY

HOLMES COUNTY, FL

AND INCORPORATED AREAS

FLOOD PROFILES

HOLMES CREEK



FEDERAL EMERGENCY MANAGEMENT AGENCY

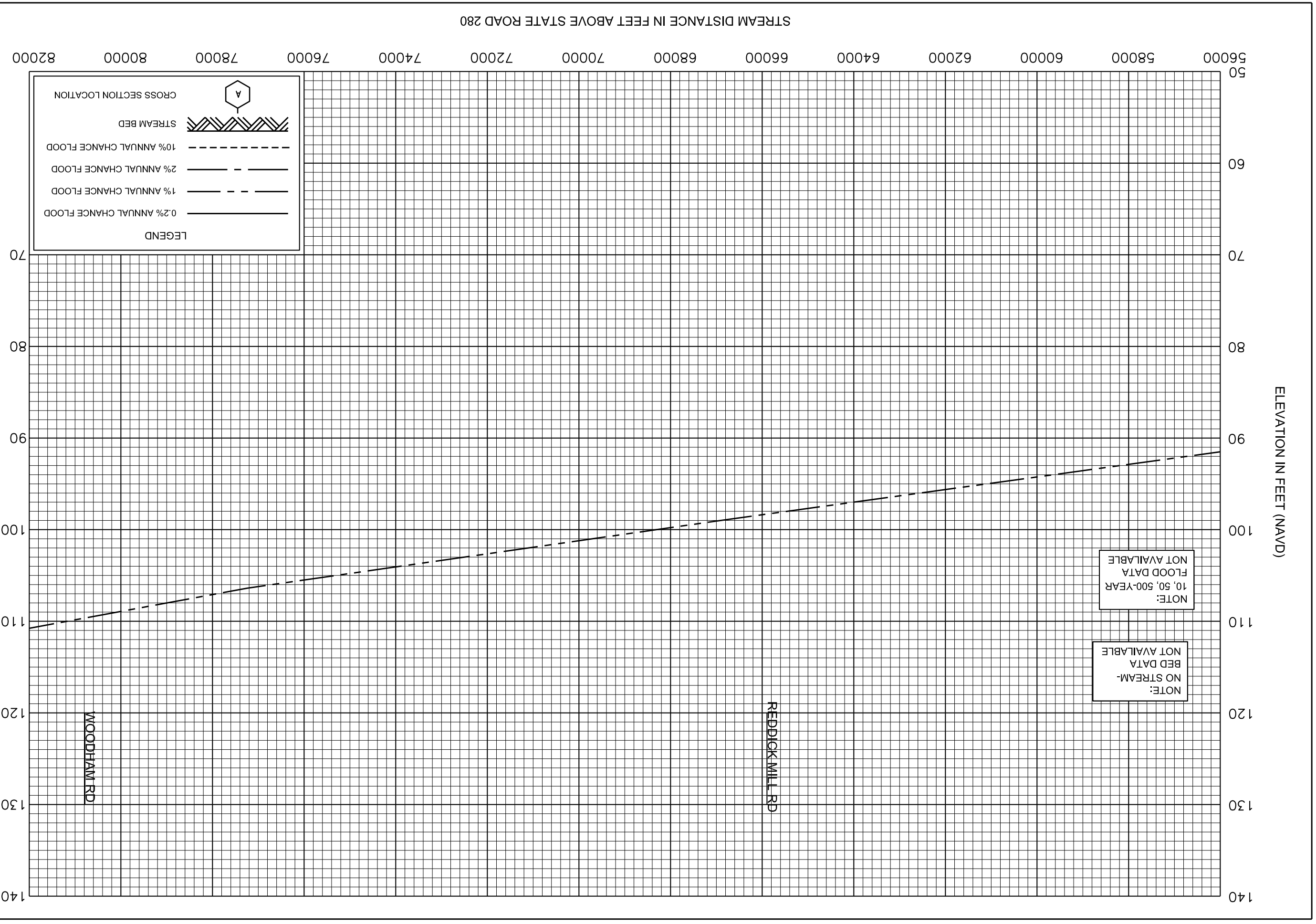
HOLMES COUNTY, FL

AND INCORPORATED AREAS

FLOOD PROFILES

HOLMES CREEK

07P



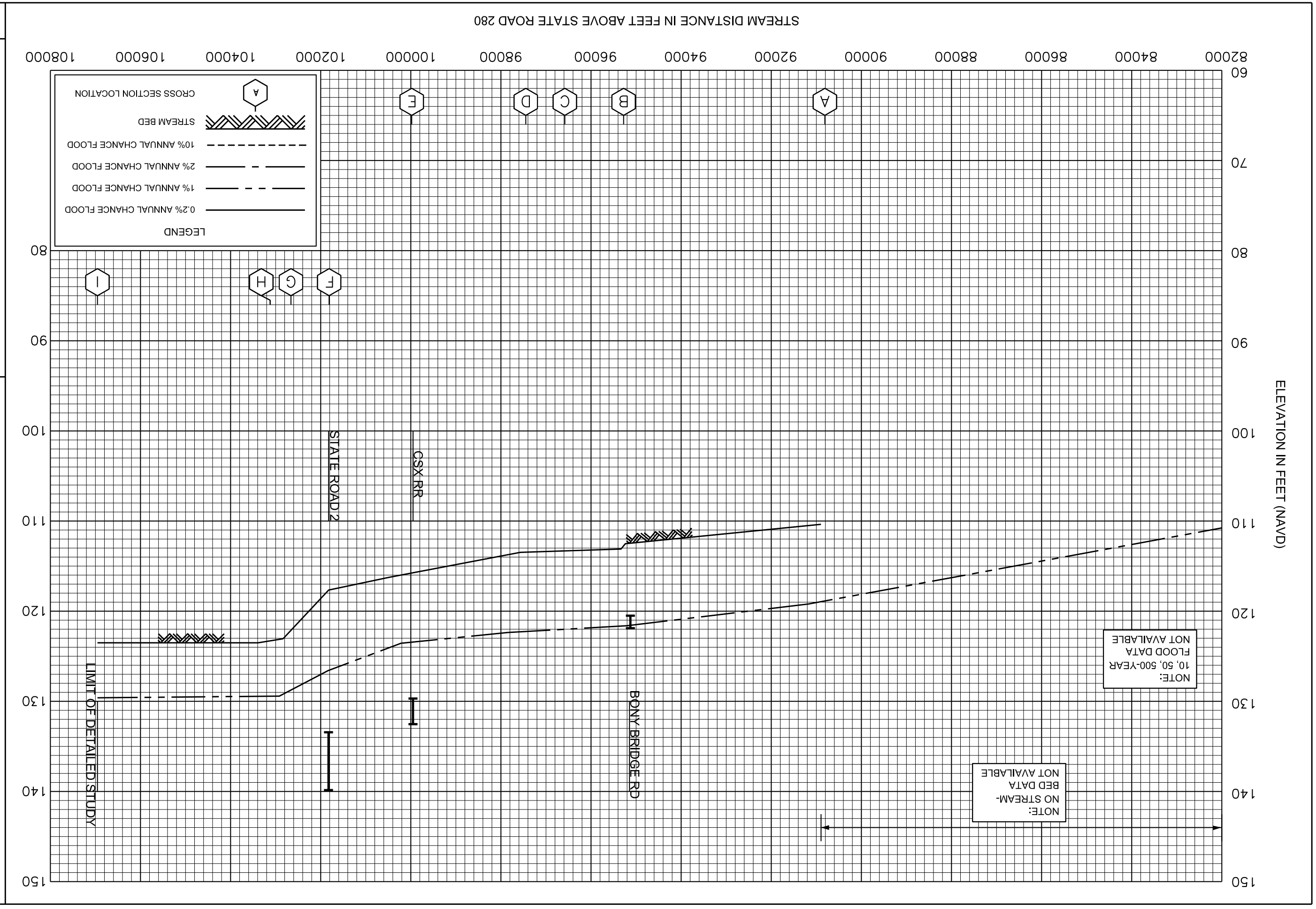
FEDERAL EMERGENCY MANAGEMENT AGENCY

HOLMES COUNTY, FL

AND INCORPORATED AREAS

FLOOD PROFILES

HOLMES CREEK



09P

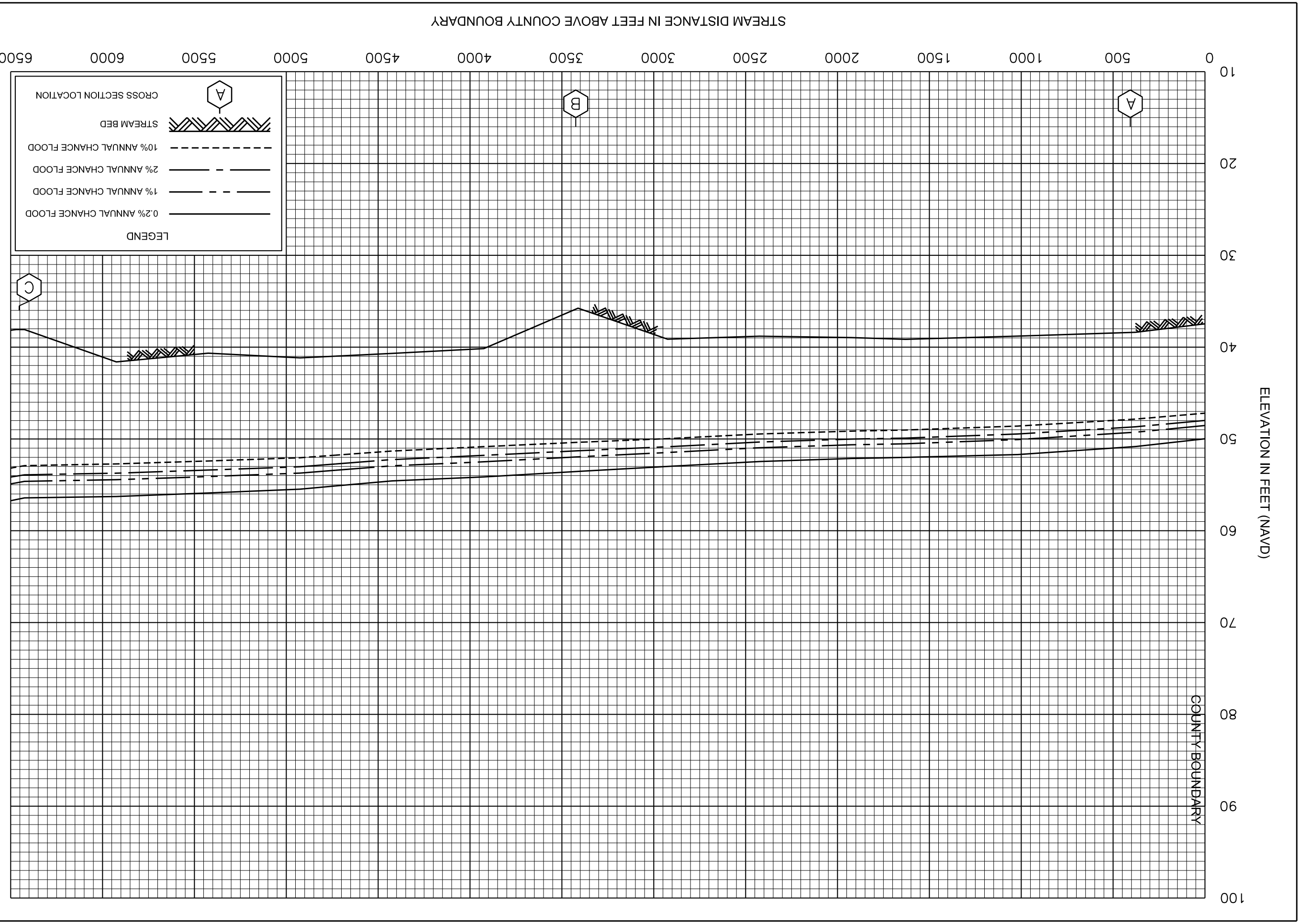
FEDERAL EMERGENCY MANAGEMENT AGENCY

HOLMES COUNTY, FL

AND INCORPORATED AREAS

FLOOD PROFILES

SANDY CREEK



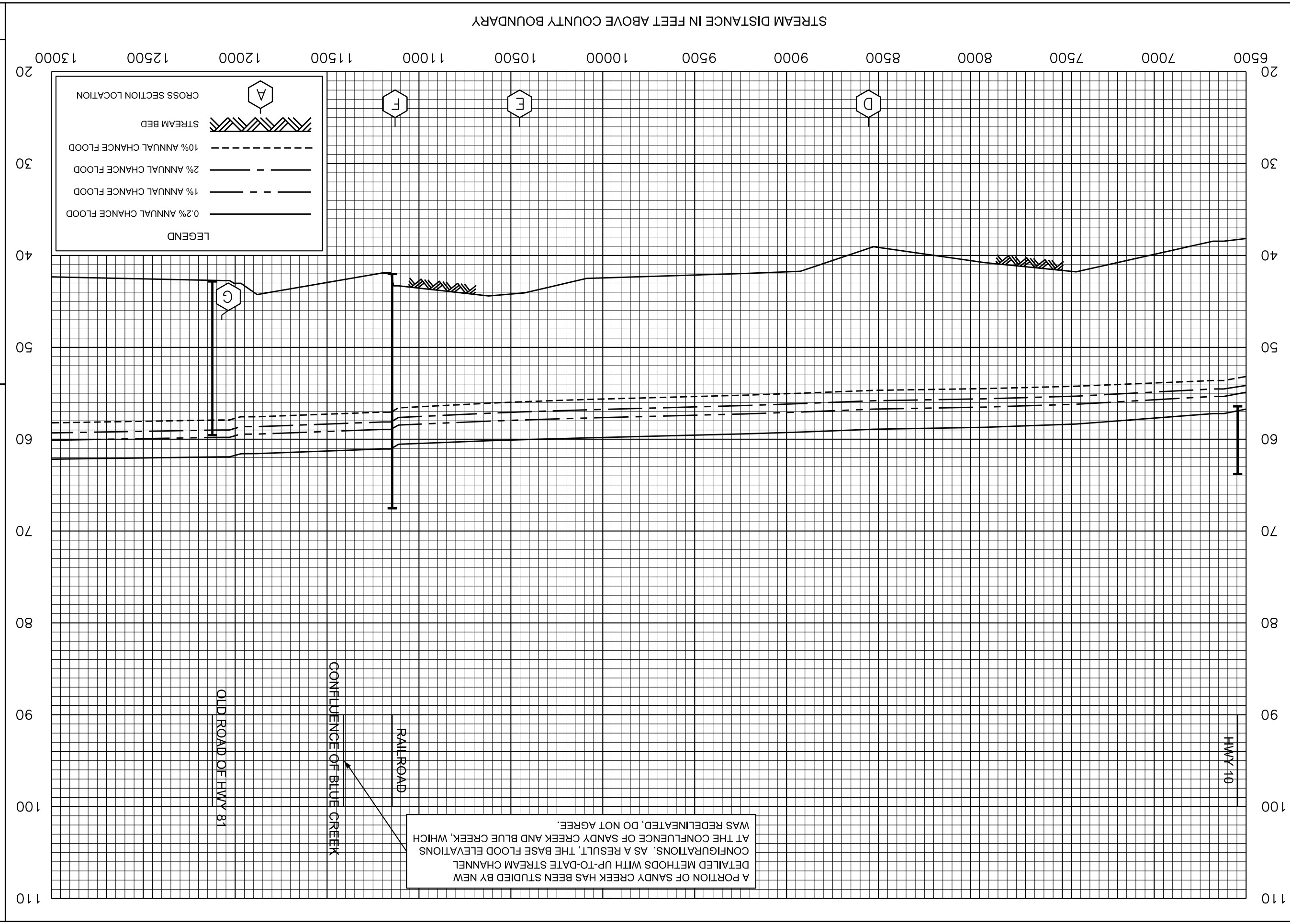
FEDERAL EMERGENCY MANAGEMENT AGENCY

HOLMES COUNTY, FL

AND INCORPORATED AREAS

FLOOD PROFILES

SANDY CREEK



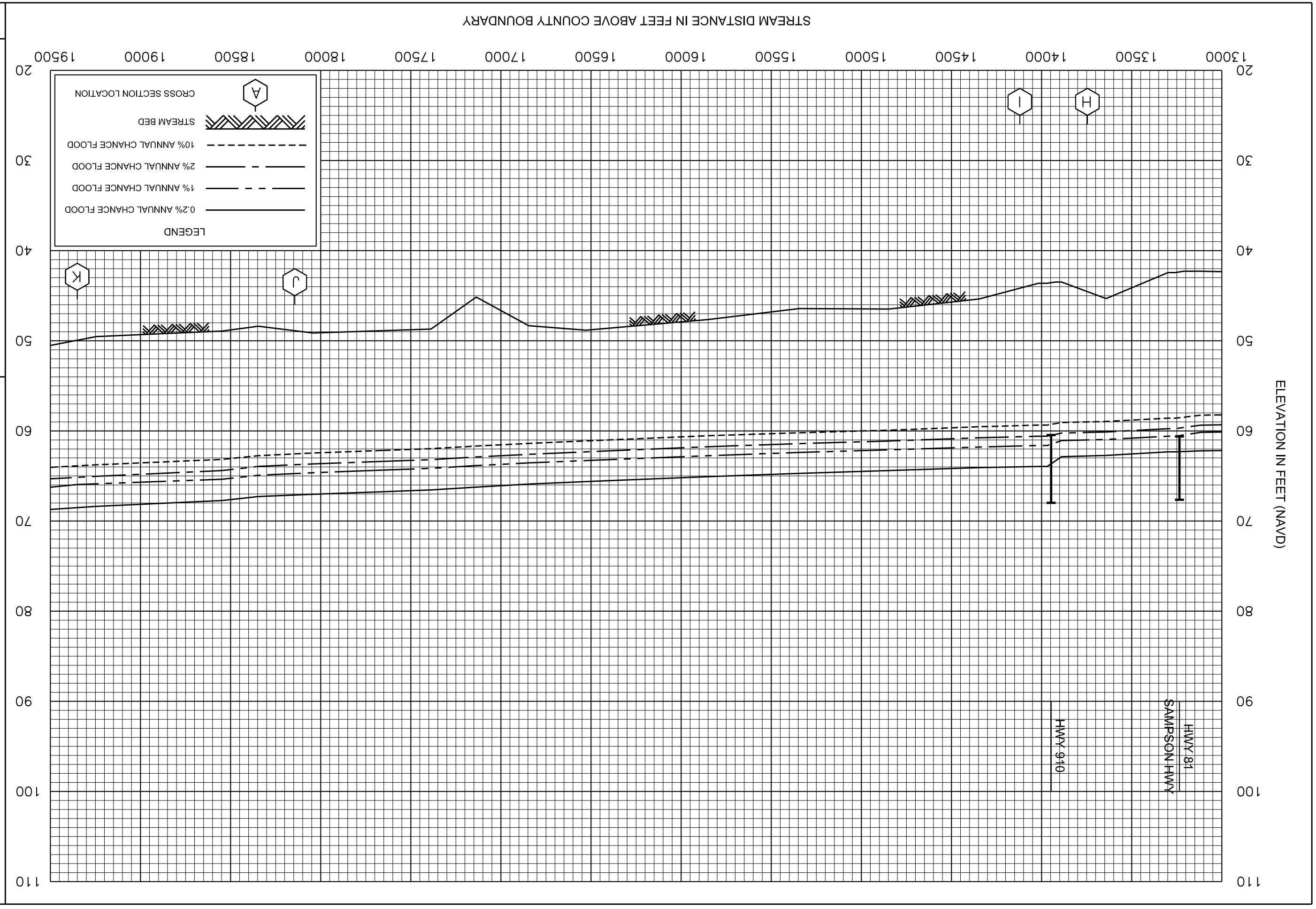
FEDERAL EMERGENCY MANAGEMENT AGENCY

HOLMES COUNTY, FL

AND INCORPORATED AREAS

FLOOD PROFILES

SANDY CREEK



FEDERAL EMERGENCY MANAGEMENT AGENCY

HOLMES COUNTY, FL

AND INCORPORATED AREAS

FLOOD PROFILES

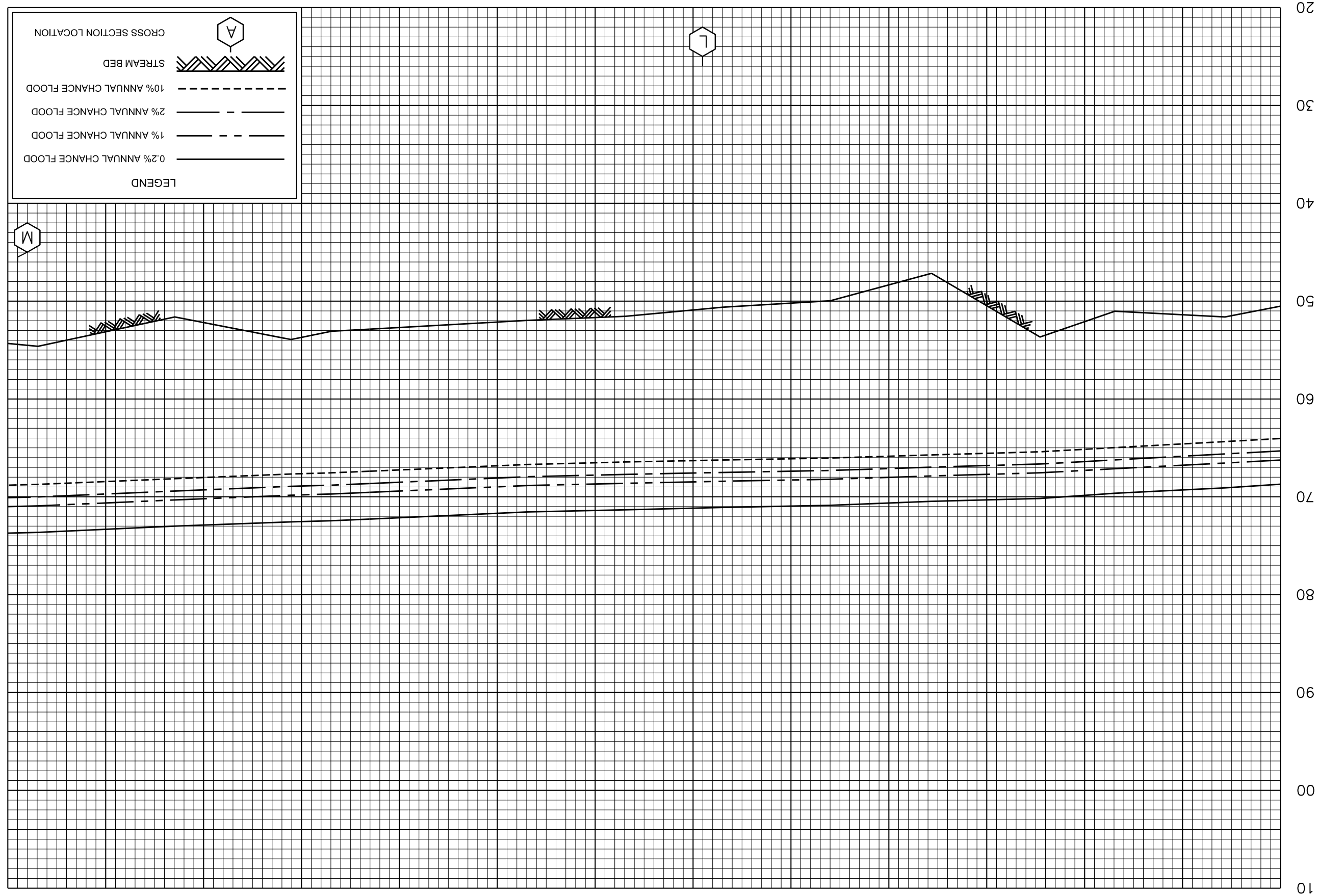
SANDY CREEK

STREAM DISTANCE IN FEET ABOVE COUNTY BOUNDARY

19500 20000 20500 21000 21500 22000 22500 23000 23500 24000 24500 25000 25500 26000

ELEVATION IN FEET (NAVD)

20 30 40 50 60 70 80 90 100 110



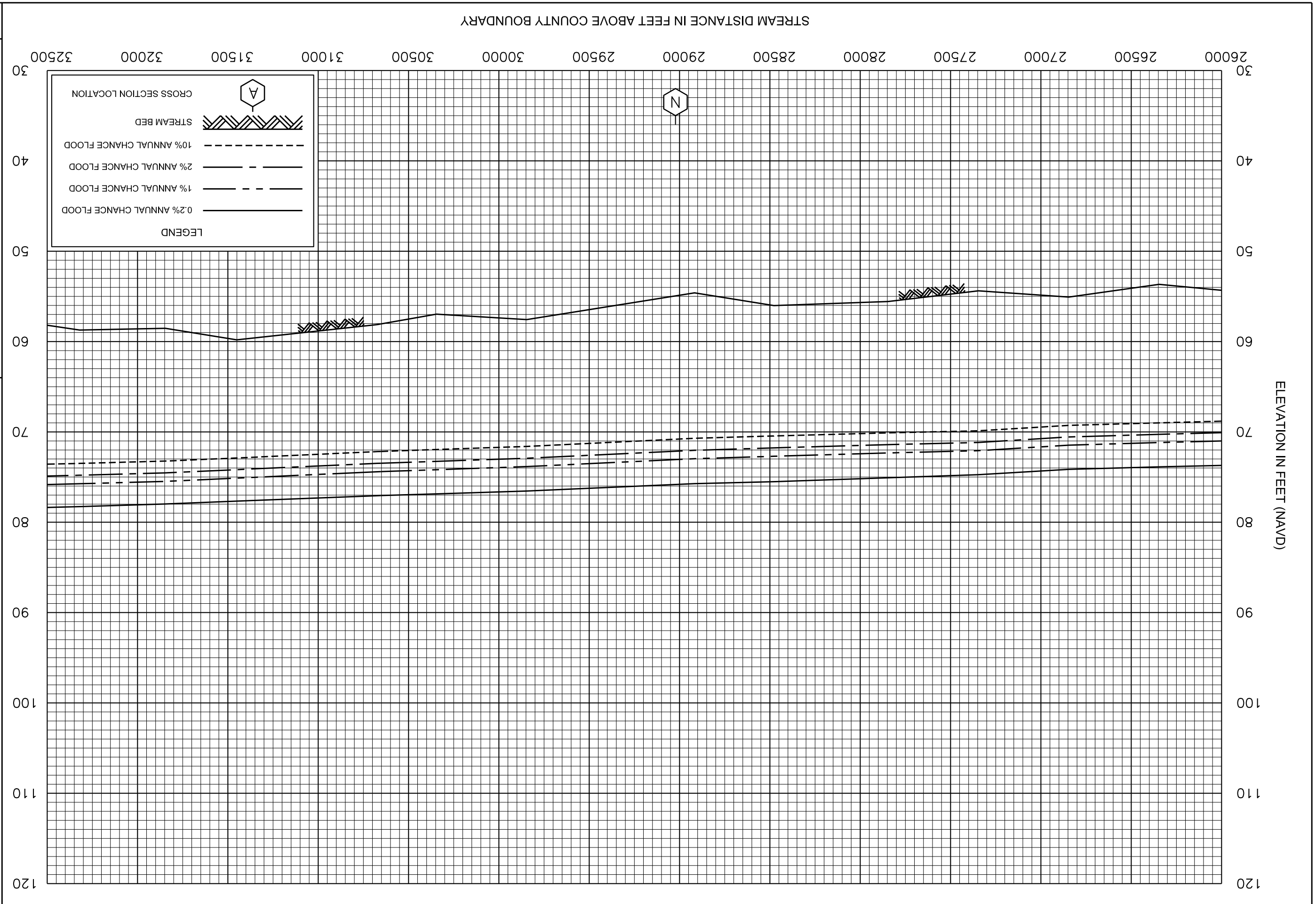
FEDERAL EMERGENCY MANAGEMENT AGENCY

HOLMES COUNTY, FL

AND INCORPORATED AREAS

FLOOD PROFILES

SANDY CREEK



FEDERAL EMERGENCY MANAGEMENT AGENCY

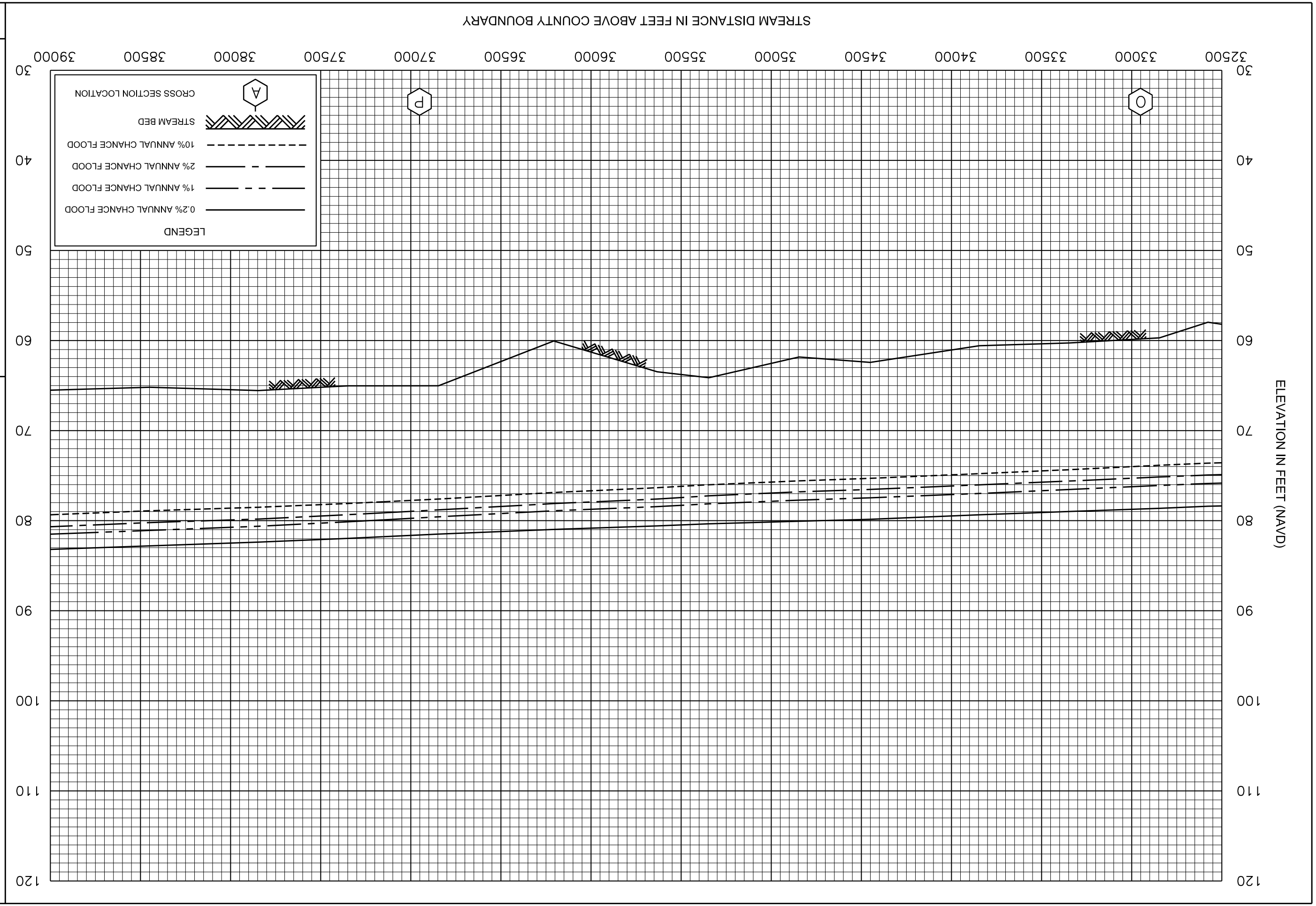
HOLMES COUNTY, FL

AND INCORPORATED AREAS

FLOOD PROFILES

SANDY CREEK

14P

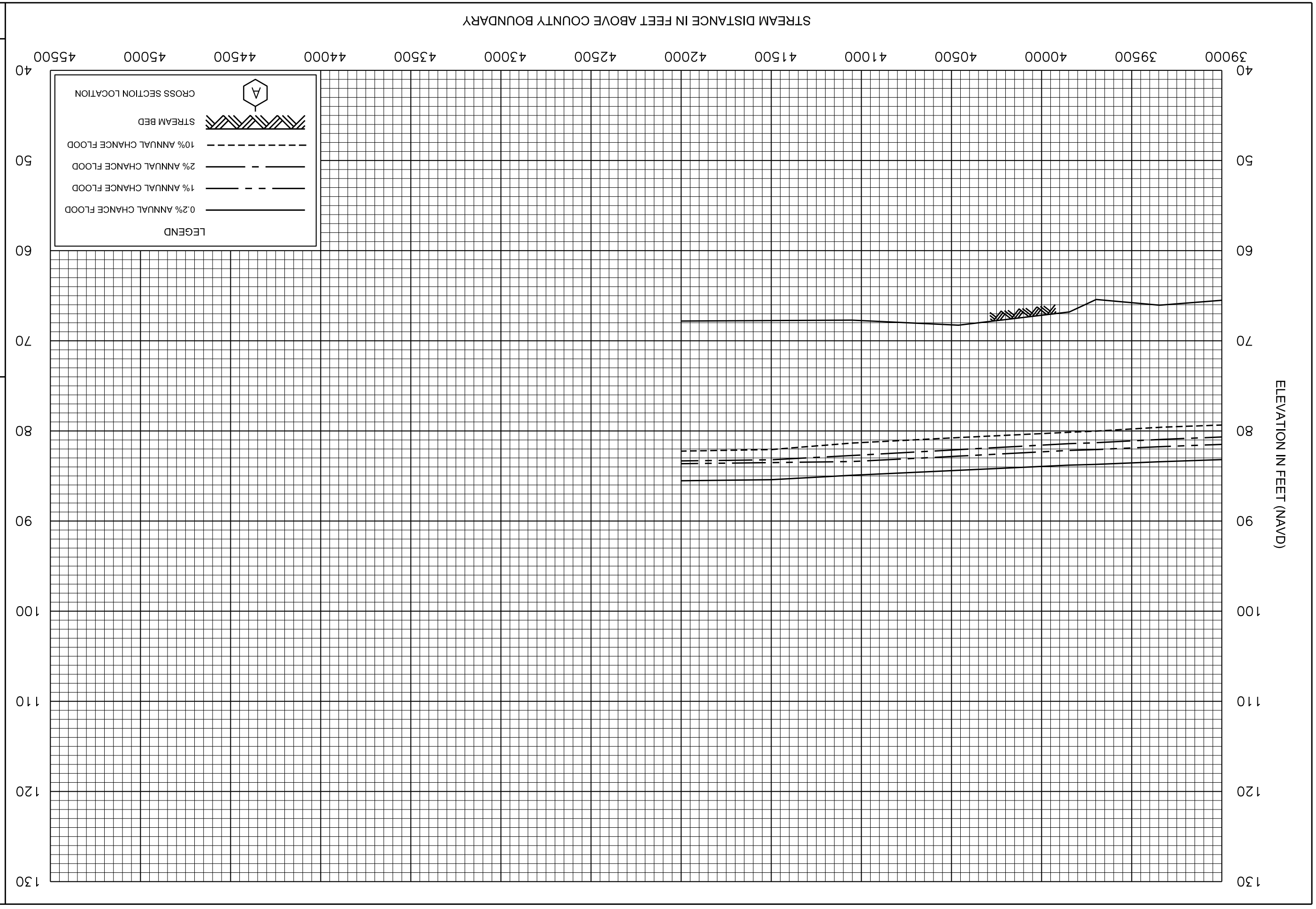


FEDERAL EMERGENCY MANAGEMENT AGENCY

HOLMES COUNTY, FL
AND INCORPORATED AREAS

FLOOD PROFILES

SANDY CREEK



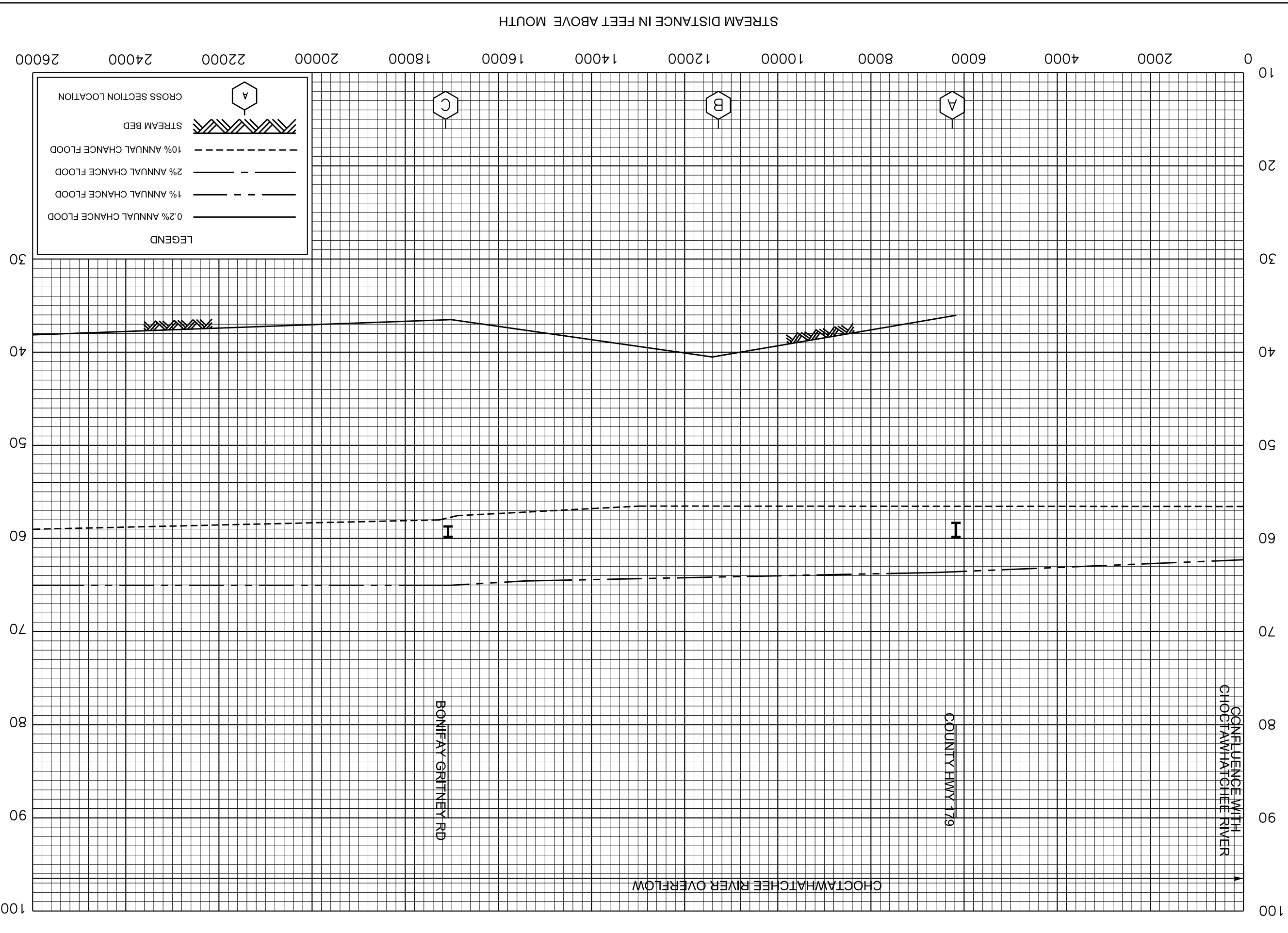
FEDERAL EMERGENCY MANAGEMENT AGENCY

HOLMES COUNTY, FL

AND INCORPORATED AREAS

FLOOD PROFILES

WRIGHTS CREEK



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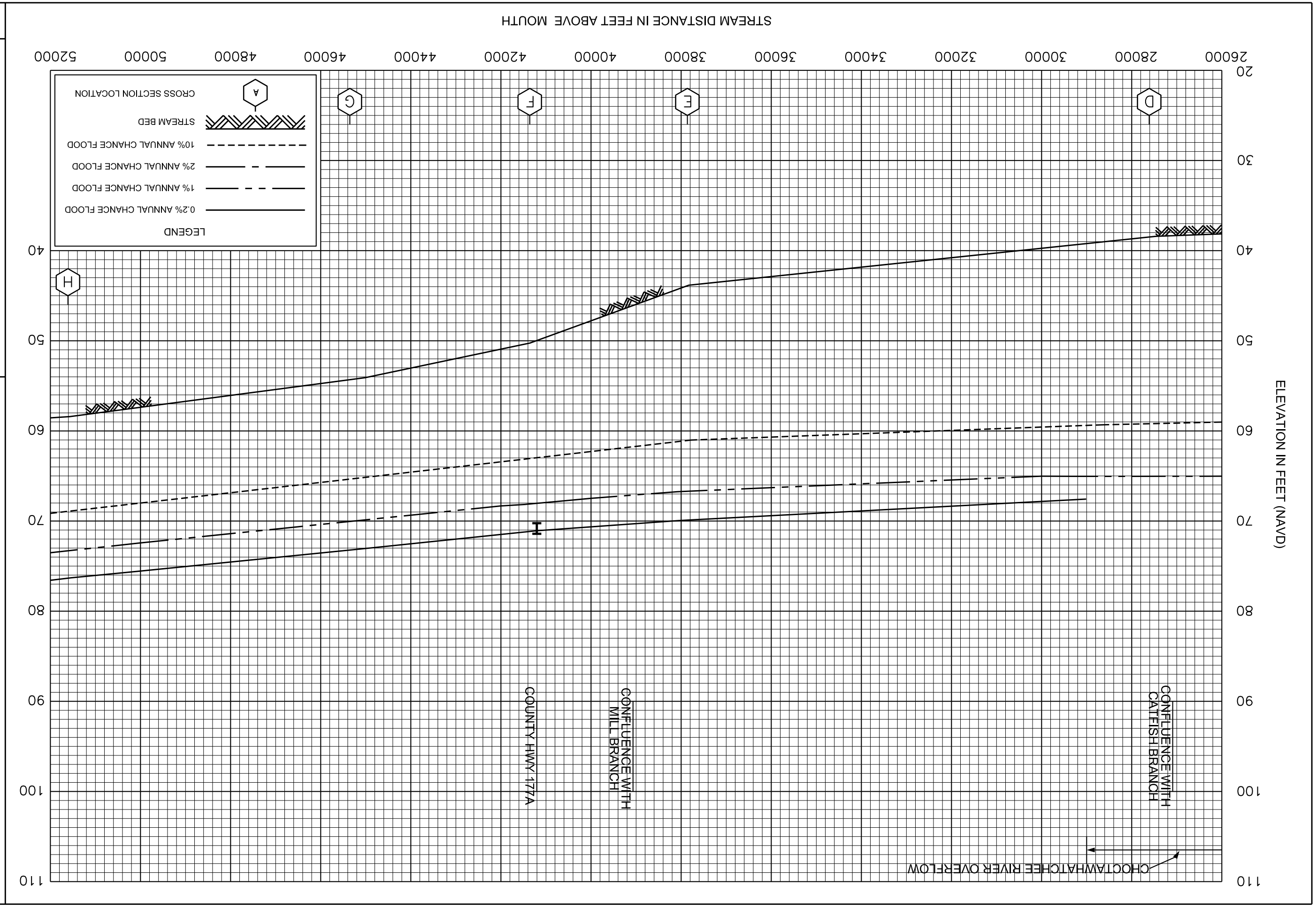
HOLMES COUNTY, FL
AND INCORPORATED AREAS

FLOOD PROFILES

WRIGHTS CREEK



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HOLMES COUNTY, FL

AND INCORPORATED AREAS

FLOOD PROFILES

WRIGHTS CREEK